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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,139	03/06/2007	Shinichiro Yamada	09792909-6492	2702
26263 7590 08/25/2008 SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 WACKER DRIVE STATION, SEARS TOWER CHICAGO, IL 60606-1080				
EXAMINER LEE, DORIS L				
ART UNIT 1796		PAPER NUMBER		
MAIL DATE 08/25/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/596,139

**Applicant(s)**

YAMADA ET AL.

**Examiner**

Doris L. Lee

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 13-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-US)  
Paper No(s)/Mail Date 20060601
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I (claims 1-12) in the reply filed on June 30, 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 13-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected groups, there being no allowable generic or linking claim. The requirement is deemed proper and is therefore made FINAL.

### ***Claim Objections***

2. **Claim 4** is objected to because of the following informalities: the claim does not use standard Markush group language nor is it set forth in acceptable alternative language, see MPEP 2173.05(h). It is suggested that the limitation "...wherein said metal hydroxide is at least one of..." either be amended to read "...wherein said metal hydroxide is selected from the group consisting of..." or the "and" be replaced with "or". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-8 and 12** are rejected under 35 U.S.C. 102(b) as being anticipated by **Yamada et al (JP 2003-192925, see English language equivalent 2005/0143502)**.

**Regarding claim 1**, Yamada teaches a resin composition ([0002]) comprising:

- at least one biodegradable polysaccharide ([0030])
- a flame retardant additive containing a hydroxide ([0043])
- and a hydrolysis suppressing agent suppressing the hydrolysis of said at least one polysaccharide ([0049]).

**Regarding claim 2**, Yamada teaches that the polysaccharide is cellulose, starch, chitosan, dextran and derivatives thereof and copolymers comprising one of them ([0032]).

**Regarding claim 3**, Yamada teaches that the said hydroxide includes at least one metal hydroxide.([0038]).

**Regarding claim 4**, Yamada teaches that the metal hydroxide is aluminum hydroxide, magnesium hydroxide or calcium hydroxide ([0038]).

**Regarding claim 5**, Yamada teaches that the hydroxide has a purity of not less than 99.5% ([0045]).

**Regarding claim 6**, Yamada teaches that said hydroxide is in the form of particles with a BET specific surface area not higher than 5.0 m<sup>2</sup>/g ([0047]).

**Regarding claim 7**, Yamada teaches that said hydroxide has an average particle size not higher than 100 microns ([0046]).

**Regarding claim 8**, Yamada teaches that the flame retardant additive further contains a nitrogen compound ([0035], [0039]).

**Regarding claim 12**, Yamada teaches that the hydrolysis suppressing agent is a carbodiimide compound, and isocyanate compound or an oxazoline compound ([0050]).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 9-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yamada et al (JP 2003-192925, see English language equivalent 2005/0143502)** in view of **Yoshida (US 2002/0151631)**.

The discussion regarding Yamada in paragraph 4 above is incorporated here by reference.

**Regarding claim 9**, Yamada teaches that a nitrogen flame retardant compound can be used in the composition; however, Yamada fails to teach the addition of a nitrogen oxide compound.

Yoshida teaches a resin composition ([0008]) which has a metal hydroxide component which may be aluminum hydroxide, magnesium hydroxide, or calcium hydroxide ([0018]) which incorporates a nitrogen oxide composition ([0009]).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the nitrogen oxide compounds of Yoshida in the composition of Yamada. One would have been motivated to in order to have excellent flame retardancy at a low amount of addition to the resin without degrading various properties of such resin and a low production of combustion residue when such resin of so is combusted for disposal (Yoshida, [0007]). They are combinable because they are both concerned with the same field of endeavor, namely resins with metal hydroxides as flame retardants. Absent objective evidence to the contrary and based upon the teachings of the prior art, there would have been a reasonable expectation of success.

**Regarding claim 10**, modified Yamada teaches that the nitrogen oxide is a non-metallic nitric acid compound and/or a non-metallic nitrous acid compound ([0012]).

**Regarding claim 11**, modified Yamada teaches that the average particle size of said nitrogen compound is not larger than 100 microns ([0011]).

### ***Double Patenting***

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. **Claims 1, 2 and 12** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1, 2, 4 and 8** of copending **Application No. 10/596,114 (PGPub 2007/0270527)**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims both recite polysaccharide resins with hydrolysis suppressing agent. Although the claims of US App '114 do not teach the metal hydroxide composition, it is taught in paragraph [0080] of US App '114's PGPub. Case law holds that those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. In *re Vogel*, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970). Therefore, it would have been obvious to one of ordinary skill in the art to use the metal hydroxide of taught in the specification US App '114 in the claims of US App '114 to arrive at the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Doris L. Lee whose telephone number is (571)270-3872. The examiner can normally be reached on Monday - Thursday 7:30 am to 5 pm and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Doris L Lee/



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Examiner, Art Unit 1796

/Vasu Jagannathan/

Supervisory Patent Examiner, Art Unit 1796